IN THE CLAIMS:

Please amend the claims as follows:

1.   (Original) A system offering an Application Programming Interface (101b) for multi-stream multimedia applications (130) running on at least two registered end peers participating in a mo-bile telecommunication session and/or middleware (130) being connected to a mobile network, said system (128) providing guaranteed end-to-end quality and resource capabilities using the concept of concatenated E2ENP phases and being adapted to provide

-       a pre-negotiation of a multiplicity of alternative capabilities and QoS Contracts,

-       management of leased pre-negotiated information,

-       session establishment between said end peers with negotiation of a multiplicity of alternative capabilities and/or QoS Contracts, and

-       a dynamic re-negotiation of the end-to-end quality and capabilities,

wherein the information to be negotiated is expressed in an interchangeable format so as to allow said multi-stream multimedia applications (130) to agree on a specific reference model of the negotiated information, which can then be used for dynamically configuring Finite State Machines (106) to orchestrate local, peer, and network resources according to the preferences and profiles of the respective user.

2.   (Original) A system according to claim 1,

characterized in that

said system (128) is internally decomposed into a set of Finite State Machines (106) coordinating the internal processes and Application Programming Interfaces (101a-e).

3.   (Original) A system according to claim 2,

characterized in that

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said multi-stream multimedia applications (130) and/or said middleware (130) use said Finite

State Machines (106) for a dynamic configuration.

4.   (Currently Amended) A system according to ~~anyone of the preceding claims~~ claim 1,

characterized in that

it is designed to support multiple concurrent users.

5.   (Original) A system for establishing a session between two entities in a

telecommunications network, said unit (128) comprising the following Application Programming

Interfaces (APIs):

-       a Management API (101a) representing an interface (IF1) between the unit (128) and an

entity (102) managing it,

-       an API (101b) representing an interface (IF2) between the unit (128), middleware (130)

and/or an application (130) using services offered by the unit (128),

-       a generic session-layer protocol API (101c) representing an interface (IF3) between the

unit (128) and a User Agent (110) of a session-layer protocol.

6.   (Currently Amended) A system according to ~~anyone of the preceding claims~~ claim 1,

characterized by

a two-stage E2ENP Cache (104) for managing negotiation object identifiers in order to decouple

the identification scheme of a specific application (130) and/or middleware (130) from the one

specified for the E2ENP by non-persistently storing and retrieving

-       E2ENP session identifiers referring to the respective mo-bile telecommunication session,

-       the E2ENP session identifiers referring to the respective Service Provider (110) handled

by the Finite State Machine (106) of the unit (128), and

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- the E2ENP session identifiers referring to the respective Service User (130) handled by any application (130) and/or middleware (130) using the services offered by said unit (128).

7.   (Currently Amended) A system according to ~~anyone of the preceding claims~~ claim 1, characterized in that

the unit (128) is adapted to

-      pre-cache information during the execution of a given E2ENP pre-negotiation or negotiation procedure, wherein the pre-cached data remains cached for future reference during a later E2ENP session once the given procedure has been successfully completed, and

-      to cache information which can be applied as a reference to data, which has already been (pre-)negotiated among the end peers, during a new E2ENP pre-negotiation or negotiation procedure.

8.   (Currently Amended) A system according to ~~anyone of the preceding claims~~ claim 1, characterized by

E2ENP session-layer protocol APIs (101a-e) being independent of the actually used session-layer protocol and the session description protocol implementations.

9.   (Currently Amended) A system according to ~~anyone of the preceding claims~~ claim 1, characterized by

a Factory API (101e) representing an interface (IF5) between the unit (128) and a Factory instance (114) used for encoding an E2ENP session description.

10.   (Currently Amended) A system according to ~~anyone of the preceding claims~~ claim 1, characterized by

a Parser API (101d) representing an interface (IF4) between the unit (128) and a Parser instance (112) needed for decoding an E2ENP session description.

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11.   (Currently Amended) A system according to ~~anyone of the claims 9 and 10~~ claim 9,

characterized in that

the Parser instance (112) and the Factory instance (114) can be configured independently by

using the same protocol.

12.   (Currently Amended) A system according to ~~anyone of the preceding claims~~ claim 1,

based on a novel usage of the Session Initiation Protocol (SIP) in conjunction with extensions of

the Session Description Protocol (SDP) or Session Description Protocol – Next Generation

(SDPng), respectively.

13.   (Original) A system according to claim 12,

characterized in that

the session-layer protocol and the Session Description Protocol (SDP) or Session Description

Protocol - Next Generation (SDPng), respectively, are independently configurable.

14.   (Original) A negotiation method providing guaranteed end-to-end quality and resource

capabilities for multi-stream multimedia applications (130) running on at least two registered end

peers participating in a mobile telecommunication session and/or middleware (130) being

connected to a mobile network to dynamically adapt to changes in transmission quality, which is

based on extensions of the End-to-End Negotiation Protocol (E2ENP), said method providing

-       a pre-negotiation of a multiplicity of alternative capabilities and QoS Contracts,

-       management of leased pre-negotiated information,

-       session establishment between said end peers with negotiation of a multiplicity of

alternative capabilities and/or QoS Contracts and coordination of terminal and network re-source

reservations, and

-       a fast, dynamic re-negotiation of the end-to-end quality and capabilities

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using the concept of concatenated E2ENP phases,

characterized by the step of

expressing the information to be negotiated in an inter-changeable format so as to allow said multi-stream multimedia applications (130) to agree on a specific reference model of the negotiated information, which can then be used for dynamically configuring Finite State Machines (106) to orchestrate local, peer, and network resources according to the preferences and profiles of the respective user.

15. (Original) A negotiation method according to claim 14,

characterized in that

the resource reservation coordination process is based on a multi-phase call-setup mechanism that makes network QoS and security establishment a precondition to sessions initiated by the session-layer protocol and described by a session description protocol implementation, wherein network resource reservation mechanisms are deployed before the session is started,

wherein Indication (Ind) and Confirmation (Cfm) primitives, which are invoked by the unit (218) to the registered client side of the middleware (130) in order to respectively indicate the arrival of a particular message exchange or confirm the conclusion of a given message exchange, are an integral part of the E2ENP and mapped to a E2ENP "qosdef" section (1300), which either specifies capabilities of a peer or de-fines validated QoS contracts that have been validated by en-tities using the unit (128), and its corresponding negotiation process.

16. (Currently Amended) A negotiation method according to ~~anyone of the claims 14 and 15~~ claim 14,

characterized by

a mandatory synchronization of the reservation processes between different peers according to an "Economy Principle".

17.   (Currently Amended) A negotiation method according to ~~anyone of the claims 14 to 16~~ claim 14,

characterized in that

in case no network resource reservation is conducted by the end peer at the Offerer side, the unit (128) of another end peer acting as an Answerer determines this case by examining the preconditions made by the Offerer and correspondingly enables the Answerer to transparently deal with resource reservation coordination.

18.   (Currently Amended) A negotiation method according to ~~anyone of the claims 14 to 17~~ claim 14,

characterized by the step of

allowing both end-to-end and segmented reservations, wherein network resource reservation is done locally on beforehand with no cost and/or major impact on session establishment.

19.   (Currently Amended) A negotiation method according to ~~anyone of the claims 14 to 18~~ claim 14,

· characterized in that

in case a multi-stream multimedia application (130) or middleware (130) wishes to execute a "pre-reservation" of net-work resources, the E2ENP signaling gives the right timing to said application (130) or middleware (130), respectively, thereby informing it when the resource reservations at all sides have been accomplished.

20.   (Currently Amended) A negotiation method according to ~~anyone of the claims 14 to 19~~ claim 14,

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characterized by

a new E2ENP syntax which allows that E2ENP addresses (600) identifying different E2ENP

users, which are passed on by the applied pre-negotiation and negotiation primitives and mapped

to the specific syntax used by the underlying session-layer protocol that is used for piggybacking

E2ENP information, are independent of said session-layer protocol and/or the respective

transport protocol used underneath by the unit (128).

21.   (Currently Amended) A contention resolution method used for a negotiation method

according to ~~anyone of the claims 14 to 20~~ claim 14, which is applied in case of two peers

initiating E2ENP phases at the same time,

wherein the E2ENP UA (128) does not only include the session identifier sent by an Offerer but

also a hash thereof as a substitute for said session identifier in any subsequent session-layer

protocol message which takes the IP address of the computing unit where the E2ENP UA (128)

is active into account and a time stamp, which is applied whenever a negotiation or pre-

negotiation phase is initiated.

22.   (Original) A contention resolution method according to claim 21,

characterized in that

in case two peers are not already involved in multimedia sessions, each peer compares the hash it

has generated with the one received from the peer, and the peer with the biggest value is

automatically chosen as Offerer and thus proceeds with the pre-negotiation or negotiation phase

as such, whereas the other peer automatically moves to the Answerer mode.

23.   (Original) A contention resolution method according to claim 21,

characterized in that

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in case two peers are already involved in multimedia sessions, the peer whose request has been rejected applies an unplanned re-negotiation procedure after the peer whose re-quest has been accepted has completed its negotiation procedure.

24.   (Currently Amended) A telecommunications network,

characterized in that

said telecommunications network comprises ~~an~~ a system (128) according to ~~anyone of claims 1 to 13~~ claim 1.

25.   (Currently Amended) A computer software program product,

characterized in that

said computer software program product implements a system (128) according to ~~anyone of claims 1 to 13~~ claim 1 when running on a mobile terminal in a wireless network environment.

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